

AMENDMENTS TO THE CLAIMS:

The following listing of claims replaces all prior listings, and all prior versions, of claims in the application.

LISTING OF CLAIMS:

1. (Canceled)

2. (Canceled)

3. (Currently Amended) A manipulator, ~~as described in the claim 2,~~ having a plural number of joints therein, wherein at least in one (1) joint of the joints comprises:

two rotating members, disposed in opposing relation to each other;

a driving means for driving one of said rotating members to cause a rotating movement to the other rotating member;

said driving means including a guide means attached on a rotational shaft of each of said rotating members, and a wire having at least one end thereof fixed to said guide means; and

a means for keeping a distance between rotational centers of said two rotating members constant,

wherein said joint is a second one or subsequent joint from a tip thereof or thereafter of the manipulator, and a wire for driving the joint locating nearer to said tip portion is guided to the joint on a side of the tip portion, passing through between said guide members owned by of said joint, and

wherein each of the rotating members has a semicircular shape and is integrally formed with a tip of one of a base portion of the manipulator and a cylindrical portion of the manipulator.

4. (Canceled)

5. (Currently Amended) A manipulator, ~~comprising:~~ having a plural number of joints therein, wherein at least in one of said joints comprises:

two rotating members, disposed in opposing relation to each other;

a driving means for driving one of said rotating members to cause a rotating movement to the other rotating member;

a means for keeping a distance between rotational centers of said two rotating members constant;

a surgical tool portion;

a grip portion provided on said surgical tool portion; and

a driver portion for driving said gripping portion provided on said surgical tool portion, and

a member for maintaining the length and phase of guiding wires used by the driver portion for driving the grip portion constant; wherein

a surgical tool connection portion is provided between said surgical tool portion and said driver portion, and said surgical tool portion can be separated from or connected to, ~~between~~ said driver portion and said surgical tool connection portion.

6. (Canceled)

7. (Currently Amended) A manipulator, as described in the claim-~~6~~3, wherein a tension detecting means is provided in a middle of said wire.

8. (Canceled)

9. (Currently Amended) A manipulator, ~~as described in the claim 5,~~ comprising:

a surgical tool portion;

a grip portion provided on said surgical tool portion; and

a driver portion for driving said gripping portion provided on said surgical tool portion, wherein

a surgical tool connection portion is provided between said surgical tool portion and said driver portion, and said surgical tool portion can be separated from or connected to, said driver portion and said surgical tool connection portion;

wherein said surgical tool connection portion has a pin extending to an end portion side thereof, while forming a hole in said driver portion for inserting said pin therein, whereby positioning said driver portion and said surgical tool connection portion.

10. (Currently Amended) A manipulator, ~~as described in the claim 5,~~ further ~~providing comprising:~~

a surgical tool portion;

a grip portion provided on said surgical tool portion; and

a driver portion for driving said gripping portion provided on said surgical tool portion, wherein

a surgical tool connection portion is provided between said surgical tool portion and said driver portion, and said surgical tool portion can be separated from or connected to, said driver portion and said surgical tool connection portion;

a screw means for connecting said surgical tool connection portion and said driver portion, forming a hole in a central portion of said surgical tool connection portion, and also hole at a position corresponding to said hole in said driver portion, respectively.

11. (Currently Amended) A manipulator, comprising:

a surgical tool portion;

a grip portion provided on said surgical tool portion; and

a driver portion for driving said gripping portion provided on said surgical tool portion, wherein

a surgical tool connection portion is provided between said surgical tool portion and said driver portion, and said surgical tool portion can be separated from or connected to, ~~between~~ said driver portion and said surgical tool connection portion, and said surgical tool connection portion has a joint for rotating said grip portion, wherein said joint has: two (2) pieces of rotating members, being disposed in opposing relation to each other, and each of the rotating members has a semicircular shape and is integrally formed with a tip of one of a base portion of the manipulator and a cylindrical portion of the manipulator; a driving means for driving one of said rotating members to make a rotating movement to the other thereof; ~~and a means for keeping a distance between rotation centers of said two (2) pieces of rotating members to be constant;~~ and a member for maintaining the length and phase of guiding wires used by the driver portion for driving the grip portion constant;.

12. (Currently Amended) A manipulator, comprising:

a joint having a first link and a second link therein;

a rotating contact means for bringing said first and second links to rotate while being in contact with each other;

a guide means for guiding a wire at an equal distance from each rotation center of said links when they rotate while being in contact with each other; and

said wire being guided by said guide means, ~~wherein and~~ said wire is wired passing through ~~between~~ said guide means; and

a member for maintaining the length and phase of guiding wires used by the driver portion for driving the grip portion constant;

wherein said rotating contact means has a semicircular shape and is integrally formed with a tip of one of a base portion of the manipulator and a cylindrical portion of the manipulator.